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Taxonomic studies of *Minimelanolocus* from Yunnan, China

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Abstract — Three new species of *Minimelanolocus* from dead branches are described and illustrated. The specimens were collected from tropical forest in Yunnan province of China. Two new records of *Minimelanolocus* are noted from the same area. The type specimens are deposited in HSAUP (Herbarium of the Department of Plant Pathology, Shandong Agricultural University) with isotypes in HMAS (Mycological Herbarium, Institute of Microbiology, Chinese Academy of Sciences).

Key words — anamorphic fungi, taxonomy

Introduction

Castañeda & Heredia (2001) segregated *Minimelanolocus* from *Pseudospiropes* M.B. Ellis (1971), *Helminthosporium* Link (1809), and *Belemnospora* P.M. Kirk (1981) for 12 previously described species characterized as having holoblastic, polyblastic, indeterminate, terminal becoming intercalary, integrated conidiogenous cells with holoblastic sympodial extensions and inconspicuous or slightly prominent, narrow, opaque, refractive to somewhat obscure dehiscence scars, and euseptate conidia. Those characters differentiate *Minimelanolocus* from similar genera including *Nigrolentilocus* R.F. Castañeda & Heredia and *Matsushimiella* R.F. Castañeda & Heredia.

Most species of *Minimelanolocus* are saprobes on rotten leaves or dead branches. Only two species, *M. endospermi* and *M. pterocerpi*, have been reported from China (Ma et al. 2008).

A survey of the saprobic fungi on dead wood from tropical forest in Yunnan province, China revealed three previously undescribed species and two new records of *Minimelanolocus*.

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Taxonomic descriptions

Minimelanolocus magnoliae K. Zhang & X.G. Zhang, **sp. nov.** FIGURE 1

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Coloniae effusae in substrato naturali, olivaceo-brunneae vel fuscae, pilosae. Mycelium partim superficiale et partim immersum, ex hyphis ramosis, septatis, pallide brunnea vel brunnea, laevibus, 1–2 µm crassis compositum. Conidiophora macronematosa, mononematosa, singula, interdum caespitosa, nonramosa, erecta, recta vel flexuosa, laevia, brunnea, apice versus pallidiora, 12–17-septata, 220–500 µm longa, 5–7.5 µm crassa. Cellulae conidiogenae holoblasticae, polyblasticae, in conidiophoris incorporatae, indeterminatae, sympodialiter extendentes, terminales deinde intercalares, pallide brunneae. Loci conidiogeno inconspicuo vel leviter prominentibus, refractivi. Conidia solitaria, acropleurogena, simplicia, ellipsoidea vel cylindrica, basi truncata, pallide

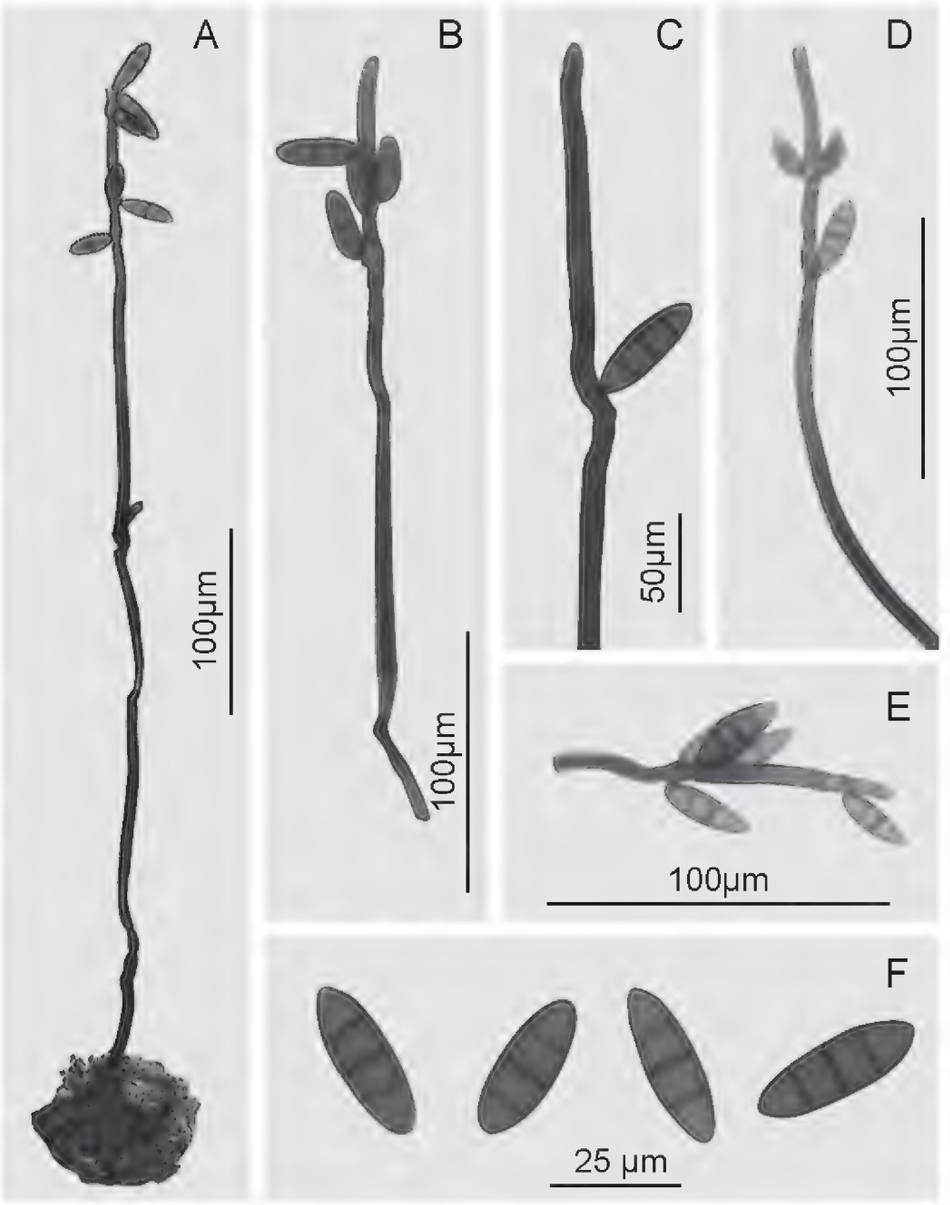

Fig. 1. *Minimelanolocus magnoliae*.
A–E. Conidiophores with conidia. F. Conidia.

brunnea vel brunnea, laevia, plerumque 3-euseptata, raro 2-euseptata, 29–38 µm longa, 10–11 µm crassa, basi truncata 1–2 µm lata, conidiorum secession schizolytica.

Holotype: On dead branches of *Magnolia paenetalauma* Dandy, forest of Daweishan, Yunnan Province, China, 15 Oct 2007, Kai Zhang, HSAUPVII0-ZK1277–1 (Isotype HMAS196885).

Etymology: In reference to the host genus, *Magnolia.*

Colonies effuse on natural substratum, olivaceous brown to blackish brown, hairy. Mycelium partly superficial, partly immersed, composed of branched, septate, pale brown to brown, smooth-walled hyphae, 1–2 µm thick. Conidiophores macronematous, mononematous, sometimes caespitose, unbranched, erect, straight or flexuous, smooth, brown, paler towards apex, 12–17-septate, 220–500 µm long, 5–7.5 µm thick. Conidiogenous cells polyblastic, integrated, indeterminate, sympodially extending, terminal becoming intercalary, pale brown. Conidiogenous loci inconspicuous or slightly prominent, refractive. Conidia solitary, acropleurogenous, simple, ellipsoidal or cylindrical, truncate at the base, pale brown to brown, smooth-walled, mostly 3-euseptate, rarely 2-euseptate, 29–38 µm long, 10–11 µm thick in the broadest part, 1–2 µm wide at the truncate base, conidial secession schizolytic.

Comments: The conidia of this species are similar to *M. bambusae*, *M. hughesii*, and *M. leptotrichus* (Castañeda & Heredia 2001) in having 3 or fewer septa. However, the *M. magnoliae* conidia are larger than those of *M. bambusae* (15–19 × 6–7 µm), *M. hughesii* (12–18 × 4.5–6 µm), and *M. leptotrichus* (16–22 × 7–10 µm). In addition, the mature *M. magnoliae* conidia are brown while those of *M. leptotrichus* and *M. bambusae* are subhyaline to pale brown.

Minimelanolocus machili K. Zhang & X.G. Zhang, **sp. nov.** FIGURE 2

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Coloniae effusae in substrato naturali, atro-brunneae, pilosae. Mycelium partim superficiale et partim immersum, ex hyphis ramosis, septatis, pallide brunneis, laevibus, 2–3 µm crassis compositum. Conidiophora macronematosa, mononematosa, solitaria, nonramosa, erecta, recta vel flexuosa, laevia, atro-brunnea, apice versus pallidiora, 9–12-septata, 245–305 µm longa, 5.5–6.5 µm crassa. Cellulae conidiogenae holoblasticae, polyblasticae, in conidiophoris incorporatae, indeterminatae, sympodialiter extendentes, terminales deinde intercalares, brunnea. Loci conidiogeno inconspicuo vel leviter prominentibus, subobscurus. Conidia solitaria, acropleurogena, simplicia, apice rotundata, ad basim truncata, brunnea, cellula basali et partim pallide brunnea, laevia, 3-euseptata, 26–40 µm longa, 8.5–12 µm crassa. Basi truncata 2–3 µm lata, conidiorum secessio schizolytica.

Holotype: On dead branches of *Machilus grijsii* Hance, tropical forest of Banna, Yunnan Province, China. 12 Oct 2007, Jian Ma, HSAUPV0MJ 0565 (Isotype HMAS196886).

Etymology: In reference to the host genus, *Machilus.*

Colonies effuse on natural substratum, dark brown, hairy. Mycelium partly superficial, partly immersed, composed of branched, septate, pale brown,

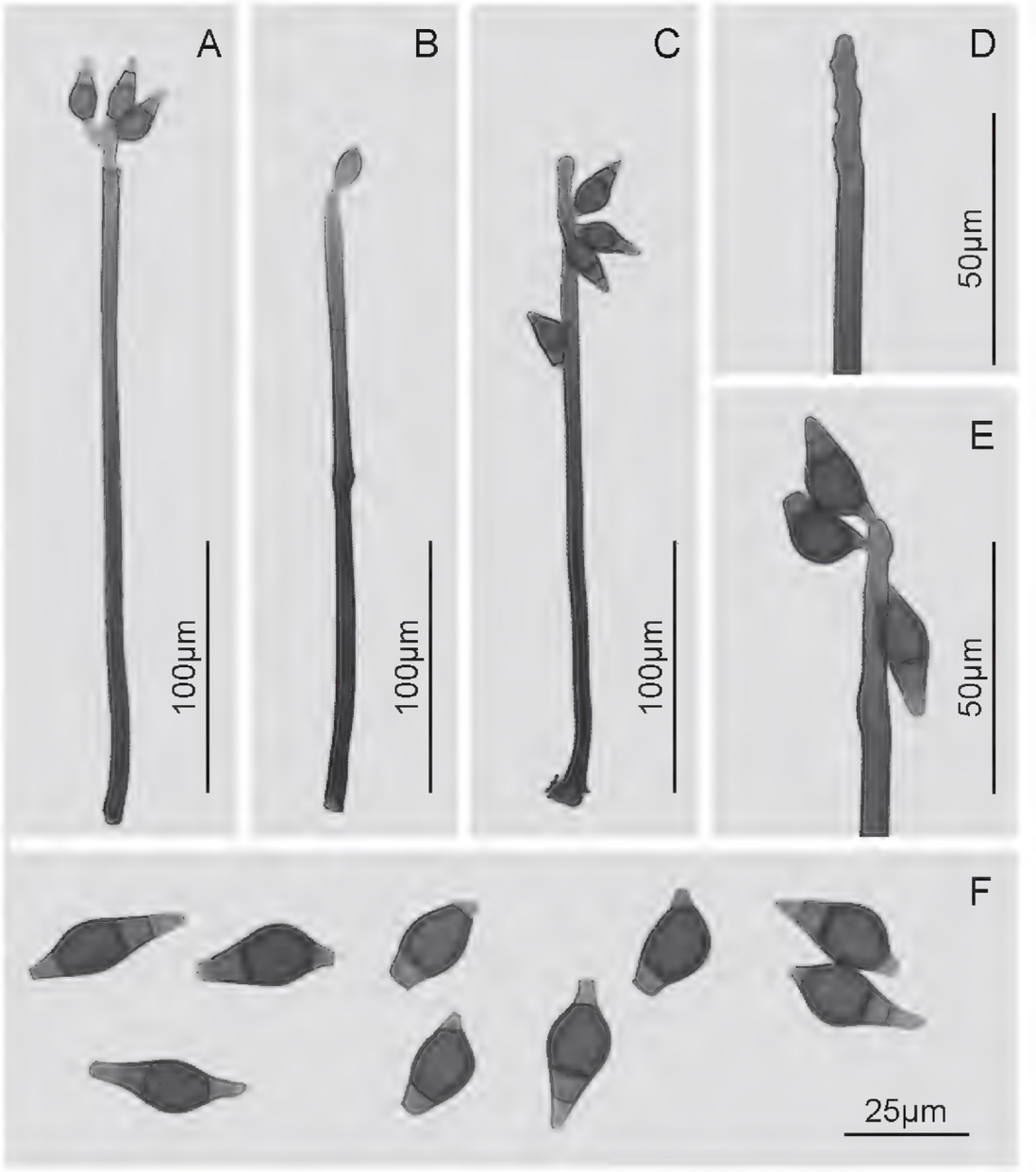

Fig. 2. *Minimelanolocus machili*.
A–E. Conidiophores with or without conidia. F. Conidia.

smooth-walled hyphae, 2–3 μm thick. Conidiophores macronematous, mononematous, unbranched, erect, straight or flexuous, smooth, dark brown, paler towards apex, 9–12-septate, 245–305 μm long, 5.5–6.5 μm thick. Conidiogenous cells polyblastic, integrated, indeterminate, sympodially extending, terminal becoming intercalary, brown. Conidiogenous loci inconspicuous or slightly prominent, somewhat obscure. Conidia solitary, acropleurogenous, simple, apex rounded, base truncate, brown except for the basal cell and the apex which are pale brown, smooth-walled, 3-euseptate, 26–40 μm long, 8.5–12 μm thick in the broadest part, 2–3 μm wide at the truncate base, conidial secession schizolytic.

Comments: The conidia of this species are similar to *M. dumeti* and *M. navicularis* (Castañeda & Heredia 2001). However, *M. machili* conidia are larger than those of *M. dumeti* (15–26 × 5.5–7.5 µm) and *M. navicularis* (20–25 × 6–8 µm). In addition, the *M. machili* conidia are 3-septate while those of *M. dumeti* are only 2-septate.

Fig. 3. *Minimelanolocus camelliae*.
A–B. Conidiophores and conidia. C. Conidia.

Minimelanolocus camelliae H.B. Fu & X.G. Zhang, **sp. nov.** FIGURE 3

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Coloniae effusae in substrato naturali, atro-brunneae, pilosae. Mycelium partim superficiale et partim immersum, ex hyphis ramosis, septatis, pallide brunneis, laevibus, 1.5–2 µm crassis compositum. Conidiophora macronematosa, mononematosa, solitaria, nonramosa, erecta, recta vel flexuosa, laevia, atro-brunnea, apice versus pallidiora, 6–13-septata, 190–365 µm longa, 5.5–7.5 µm crassa. Cellulae conidiogenae holoblasticae, polyblasticae, in conidiophoris incorporatae, indeterminatae, sympodialiter extendentes, terminales deinde intercalares, brunnea. Loci conidiogeno inconspicuo vel leviter prominentibus, subobscurus. Conidia solitaria, acropleurogena, simplicia, apice rotundata, ad basim truncata, brunnea, laevia, 3-euseptata, 23–33 µm longa, 4.5–5.5 µm crassa. Basi truncata 1–2 µm lata, conidiorum secessio schizolytica.

Holotype: On dead branches of *Camellia japonica* L., tropical forest of Banna, Yunnan Province, China. 13 Oct 2007, Hong-Bo Fu, HSAUPVII0-ZK1097–1 (Isotype HMAS196887).

Etymology: In reference to the host genus, *Camellia.*

Colonies effuse on natural substratum, dark brown, hairy. Mycelium partly superficial, partly immersed, composed of branched, septate, pale brown, smooth-walled hyphae, 1.5–2 µm thick. Conidiophores macronematous, mononematous, unbranched, erect, straight or flexuous, smooth, dark brown, paler towards the apex, 6–13-septate, 190–365 µm long, 5.5–7.5 µm thick. Conidiogenous cells polyblastic, integrated, indeterminate, sympodial, terminal becoming intercalary, brown. Conidiogenous loci inconspicuous or slightly prominent, somewhat obscure. Conidial secession schizolytic. Conidia solitary, acropleurogenous, simple, apex rounded, base truncate, brown, smooth-walled, 3-euseptate, 23–33 µm long, 4.5–5.5 µm thick in the broadest part, 1–2 µm wide at the truncate base, conidial secession schizolytic.

Comments: The conidia of *M. camelliae* are similar to those of *M. dumeti* (Castañeda & Heredia 2001) but they differ in dimensions (23–33 × 4.5–5.5 µm vs. 15–26 × 5.5–7.5 µm).

New records for China

Minimelanolocus miscanthi (Matsush.) R.F. Castañeda & Heredia, Cryptogamie Mycologie 22: 10. 2001.

On dead branches of *Melicope triphylla* (Lam.) Merr., Forest of Daweishan, Yunnan Province, China, 12 Oct 2007, Kai Zhang, HSAUPVII0-ZK1423 (duplicate HMAS196888).

Minimelanolocus rousselianus (Mont.) R.F. Castañeda & Heredia, Cryptogamie Mycologie 22: 10. 2001.

On dead branches of *Rosa rugosa* Thunb., Forest of Daweishan, Yunnan Province, China, 10 Oct 2007, Kai Zhang, HSAUPVII0-ZK1159 (duplicate HMAS196889).

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